COMPARISON BETWEEN THE ECONOMIES OF MAINE AND NEW BRUNSWICK

PHASE 2

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EXECUTIVE SUMMARY

This phase of the study has taken the statistical work of the first phase and attempted to provide some explanation of the differences in economic performance between Maine and New Brunswick. The specific variables upon which the study focused were employment growth rates and unemployment rates.

The factors whose impact on performance differences were evaluated include:

- industrial structure (industry mix),
- unemployment compensation,
- regional variations in performance within Maine,
- the role of government and the banking system.

The reasons for differences in labour force participation rates were also examined separately.

Industrial mix differences between Maine and New Brunswick do not appear to have influenced the gaps in their respective employment growth patterns. Using several standardization techniques, it was determined that industrial mix, if that alone determined growth, would have actually favoured (slightly) New Brunswick over Maine. Therefore,other factors would have to provide the explanation.

The unemployment compensation scheme which applies in New Brunswick may be causing higher unemployment rates than in Maine because it is a more generous one with respect to benefit levels and periods and to coverage. However, that would not by itself explain a difference in unemployment rates in the two economies of 10 percentage points.

The examination of public sector policy and activity and of the banking system in Maine indicated that, while there are differences in structures between New Brunswick and Maine, these

do not seem to provide the explanation for the gaps in economic performance over the past ten years.

Probably the most important factor influencing Maine's growth is its location with respect to the expanding economies of the New England region. Most people interviewed and several published sources point to the significant expansion of medium and high technology production in states like Massachusetts and suggest that its spill-over or spread effect into the rest of the region has played a major role in the pronounced improvement in the economy of Maine. The data on the geographical distribution of employment growth among the counties of Maine tend to support this argument.

There may be other features of the Maine or New England economies that are relevant to an explanation of Maine's performance which we have been unable to examine in this study because of time and budget constraints and/or because of the agreed parameters for the study. For example, in an evaluation of the growth of New England in recent years, James Howell has suggested that a combination of factors has prompted the "economic renaissance" of the region. These include

- the presence of a number of aggressive risk-taking entrepreneurs;
- a large pool of skilled workers;
- a history of industrialization and response to technological change;
- a high concentration of "preeminent" educational institutions;
- an accommodating commercial banking system;
- supportive government policies; and
- a competitive wage structure.

Several of these items have been discussed in this study but Howell's discussion points to the critical <u>interaction</u> of these influences so that no one factor is the essential one. He also notes that employment growth rates tend to be "significant in the

early growth stages of high-technology firms, but diminish in the more mature stage. This implies that the above (national) average performance of the New England economy may be the result of the stage of high technology development which the region is currently experiencing and that it will taper off in the future.

For the New Brunswick - Maine comparison it would appear that several of the factors underlying the New England development are missing in New Brunswick, particularly historical experience with industrialization and technological change, a number of high quality universities and defence contracting opportunities. If it is the convergence of these factors that is critical, there is little scope for parallel development in New Brunswick. Even if Maine is merely benefiting from the spill-over effect and not sharing in the specific type of growth that is going on in other New England states, it is its location, if nothing else, that explains its superior performance. New Brunswick does not have a comparable locational advantage.

This is not to suggest that there is no prospect for improved economic development in New Brunswick. What study results tend to indicate is that there is not much of a functional nature to be learned from the specific economic performance of Maine. That is, Maine has not found a particular formula for growth that is amenable to being influenced (directly or indirectly) by policy. Their policies of government assistance have probably accommodated the growth that has occurred but they have not been a major initiating influence in that growth.

1.0 INTRODUCTION

In the first phase of the study, the focus was on the accurate measurement of differences in the performance of the Maine and New Brunswick economies. The indicators studied included labour force activity, (participation and unemployment rates, employment growth) employment growth by industry sector, aggregate income and demographic changes. In this phase, we examine possible explanations for the gaps in growth rates, unemployment levels and income levels between the two economies. The issues studied include:

- the role of industry mix in employment growth;
- the impact of unemployment compensation on unemployment;
- regional variations in performance within the state of Maine;
- factors influencing labour force participation rates;
- the influence of government policy on economic development in Maine; and
- the influence of the banking system on economic development in Maine.

This phase of the study draws upon data collected in the first phase, as well as additional information collected from statistical sources, from interviews with government officials and other knowledgeable individuals (see Appendix 1) and from published studies (Appendix 2). Time and budget constraints did not permit an in-depth examination of each of the issues mentioned above. However, within those constraints, this phase of the study offers a reasonably comprehensive outline of

information and analysis pertinent to inferring policy-related conclusions.

2.0 ANALYSIS OF SECTORAL GROWTH

In this section of the study, we will attempt to determine the extent to which the differences in overall employment growth rates between Maine and New Brunswick are attributable to the industrial compositions of the two economies. We do this by applying a standardization procedure to the employment data for New Brunswick and Maine which allows us to separate out the impact of industry - mix from other factors which influence variations in growth patterns.

The standardization procedure most widely used when examining inter-regional variations in growth is the technique of shift-share analysis. It has been used, for example, by the Economic Council of Canada to evaluate the impact on regional employment growth patterns of differences among the Canadian provinces in industrial composition. The procedure essentially standardizes provincial data to a national norm and hence involves comparing provincial growth rates to national ones. In this way, the provincial or regional change in employment can be subdivided into three components: (i) the portion affected by industrial mix; (ii) that portion influenced by overall growth in the national economy; and (iii) a "residual" portion attributable to other factors such as competitive advantages/disadvantages of provincial industries, the influence of government policy and so on.

Normally a complete shift-share analysis of employment growth differences between Maine and New Brunswick would be inappropriate since they are not part of the same economy and hence their "sharing" in national growth has no functional meaning. However, our primary concern is merely to use the shift-share standardizing technique to focus on the comparative importance of industrial composition in the two economies. In that context, the shift-share approach can be utilized.

To isolate the influence of industry mix on differences in growth rates, the specific industry sector growth rates of one economy

(usually the national one) are applied to the base year employment of the other economy (usually the regional one). When the calculations for each industry are made and summed, standardized growth rates can be estimated using the original base year data for the regional economy and the "new" current or final year figures. The standardized growth rates are an estimate of what the increase in employment would have been in the regional economy if each of its industries had grown at the national industry's rate. The procedure (hypothetically) adjusts for the impact on aggregate growth rates of differences in overall levels of activity and factors other then industrial composition. Each regional industry is constrained to grow at the national rate. Therefore, if there is a gap between the adjusted growth rate and the original national rate, it is the result of either a more favourable (adjusted rate is higher) or a less favourable (adjusted rate is lower) industry mix in the regional economy.

Exhibit 1 shows employment by sector for Maine and New Brunswick and the changes in each jurisdiction from 1975 to 1985.

For purposes of the shift share analysis, Maine was treated as the "national" economy and its industry-specific growth rates applied to the base employment in New Brunswick -- the "regional" economy. The calculations of this analysis are shown in Exhibit 2. The exhibit shows that the adjusted growth rate for New Brunswick is higher than the growth rate in Maine. The inference to be drawn from this is that if each industry sector in New Brunswick had grown as quickly as its Maine counterpart, the mix of industries in New Brunswick is such that its overall growth rate would have been slightly higher than Maine's (31% growth from 1975 to 1985 compared to 29% for Maine). In other words, the industrial composition of the New Brunswick economy is potentially more favourable to employment growth than is Maine's. However, the difference is so small that it can reasonably be concluded that the industrial mix differences between the two economies is a relatively insignificant variable in explaining differential growth rates.

EXHIBIT 1: EMPLOYMENT BY SECTOR - NEW BRUNSWICK AND MAINE 1975-1985

	New Brunswick			Maine		
	1975 (000)	1985 (000)	1985/1975	1975 (000)	1985 (000)	1985/1975
Manufacturing	35	33	0.94	96	106	1.10
(% total)	(16.1)	(13.1)		(27.0)	(23.1)	
Trade	44	49	1.11	76	108	1.42
	(20.2)	(19.5)		(21.3)	(23.5)	
Public Administration	17	22	1.29	75	86	1.15
	(7.8)	(8.8)		(21.1)	(18.7)	
Services	58	86	1.48	60[1]	95[1]	1.58
	(26.6)	(34.3)		(16.9)	(20.7)	
Transportation and Utilities	24	26	1.08	18	19	1.06
	(11.0)	(10.4)		(5.1)	(4.1)	
Finance	8	10	1.25	14	21	1.50
	(3.7)	(4.0)		(3.9)	(4.6)	
Construction	20	14	0.70	19	23	1.21
	(9.2)	(5.6)		(5.3)	(5.0)	
Other - Non Agricultural	12	11	0.92	--	--	--
	(5.5)	(4.4)				
Total - Non - Agricultural	218 (100)	251 (100)	1.15	356 (100)	459 (100)	1.29

1. Includes mining.

Source: U.S. Bureau of Labor Statistics, Employment & Earnings, States and Areas. 1939-78 and Supplement to Employment and Earnings States and Areas 1980-85. Statistics Canada The Labour Force. Cat. 711-001.

EXHIBIT 2: STANDARDIZED NEW BRUNSWICK EMPLOYMENT GROWTH RATE USING MAINE INDUSTRY GROWTH RATES

	(1) N.B. Employment 1975	(2) Employment Maine 1985 / Employment Maine 1987	(1) X (2) Adjusted N.B. Employment 1985
Manufacturing	35	1.10	38.5
Trade	44	1.42	62.5
Public			
Administation	17	1.15	19.6
Services	58	1.58	91.6
Transportation and Utilities	24	1.06	25.4
Finance	8	1.50	12.0
Construction	20	1.21	24.2
Other - Non Agricultural	12	1.00[1]	12.0
TOTAL Non-Agricultural	218		285.8

Adjusted Growth Rate for New Brunswick =

$$\frac{285.8 - 218}{218} = 31.1\%$$

Growth Rate for Maine = 28.9%

1. In the absence of data for Maine assumed no employment change for this sector.

SOURCE: Calculated from Exhibit 1

To ensure that the unconventional use of the shift-share technique provided a reasonable estimation of the comparative importance of industrial composition, two additional standardizations were done. In the first one, the positions of the economies were simply reversed. That is, Maine's industry growth rates were adjusted using those for the counterpart sectors in New Brunswick. The adjusted growth rate for Maine was compared to the original New Brunswick growth rate. Since the adjusted growth rate for New Brunswick was slightly higher than the original growth rate for Maine in the calculations reported above, the positions should be reversed when the roles are reversed. In fact, the adjusted rate for Maine was slightly lower than the original New Brunswick rate (12.5% vs. 15.1%) thus confirming the earlier calculations. Details of the estimation are provided in Exhibit 3.

The second additional standardization was carried out by adjusting directly for industry mix. The procedure involved applying the industrial sector shares of total employment for Maine to the total employment level in New Brunswick in the base year. That is, New Brunswick's industry mix in 1975 was adjusted to be the same (proportionally) as that for Maine in 1975. Then the industry growth rates for New Brunswick (1975 to 1985) were applied to the adjusted industry employment levels. The adjusted total employment figure for 1985 was used to estimate the overall growth rate and was then compared to the original New Brunswick rate (see Exhibit 4). Any change between the original and adjusted growth rates could be attributed to industrial mix differences. If the new rates were higher than the original, it would imply that the industry mix in Maine was more favourable to growth than that of New Brunswick. In fact, the difference in growth rates was almost imperceptable (15.3% vs. 15.1%).

The two standardizing procedures should yield approximately the same result. In the first case, Maine's industry specific growth rates are applied to New Brunswick industry shares of employment. In the second approach, Maine's industry shares of employment are applied to New Brunswick industry specific growth rates. If

EXHIBIT 3: STANDARIZED MAINE EMPLOYMENT GROWTH RATE USING NEW NEW BRUNSWICK INDUSTRY GROWTH RATES

	(1) Employment Maine 1975	(2) Employment (N.B.)1985 / Employment (N.B.)1975	(1) X (2) Adjusted 1985 Employment Maine
Manufacturing	96	0.94	90.2
Trade	76	1.11	84.4
Public Administation	75	1.29	96.8
Services	60	1.48	88.8
Transportation and Utilities	18	1.08	19.4
Finance	14	1.25	17.5
Construction	19	0.70	13.3
Other - Non Agricultural	--		--
TOTAL Non-Agricultural	356		400.4

$$\text{Adjusted Growth Rate for Maine} = \frac{400.4 - 356}{365} = 12.5$$

Growth Rate for New Brunswick = 15.1

SOURCE: Calculated from EXHIBIT 1

EXHIBIT 4: STANDARDIZED NEW BRUNSWICK EMPLOYMENT GROWTH RATE USING MAINE INDUSTRY MIX

	(1) % of Total Maine Employment 1975	(2) (1) x Total N.B. Employment 1975	(3) New Brunswick Employment / New Brunswick Employment 1975	(2) x (3) Adjustment New Brunswick Employment 1985
Manufacturing	27.0	58.8	0.94	55.4
Trade	21.3	46.4	1.11	51.5
Public Administation	21.1	45.9	1.29	59.3
Services	16.9	36.7	1.48	54.5
Transportation and Utilities	5.1	11.0	1.08	12.0
Finance	3.9	8.6	1.25	10.6
Construction	5.3	11.6	0.70	8.1
Other - Non Agricultural	--			
TOTAL Non-Agriculture	100%	218		251.4

Adjusted Growth Rate for New Brunswick =

$$\frac{251.4 - 281}{218} = 15.3\%$$

Original Growth Rate = 15.1%

SOURCE: Calculated from Exhibit 1.

industry mix explains little of the growth rate differential between the two economies using one procedure, it should explain little with the other procedure.

What may be surprising is that differences in industrial composition should have such little apparent impact on the gaps in employment growth between the two economies. After all, as the first phase of the study indicated, the manufacturing sector is proportionately larger in the Maine economy than in the New Brunswick economy. If the manufacturing sector, as has been traditionally argued, is a major source of economic growth, that proportional difference should influence overall employment growth rates. However, two points are relevant in this regard. First, the traditional view of the importance of manufacturing vis-a-vis other sectors has come under considerable challenge in light of the continued rapid growth of the service sector. More importantly, the overall growth rate in employment will be affected mainly by the variations in growth rates among all the sectors. Every economy will have a mixture of fast and slow growth industries. If the fast and slow growth sectors are the same in each economy, that will tend to minimize differences in growth rates due to industrial composition.

The sectoral ranking in terms of growth rates is similar for the two economies as can be seen from Exhibit 5. Of the seven industry sectors, services ranks first and manufacturing next to last in both Maine and New Brunswick. The rankings for most of the other sectors are comparable. An alternative way of comparing the two economies is to look at which industries are increasing and which decreasing their share of total employment. The sign of the change is the same in the two economies for five of the seven sectors.

These results suggest that the role of industrial mix is relatively insignificant in explaining differences in overall employment growth. The slower (faster) growth sectors in one economy tend to be the slower (faster) growth ones in the other.

EXHIBIT 5: MAINE / NEW BRUNSWICK EMPLOYMENT GROWTH 1975 - 1985

	+/÷ (Absolute)[1]		+/÷ (% of total)[2]		Ranking of rates of growth	
	N.B.	Maine	N.B.	Maine	N.B.	Maine
Manufacturing	-	+	-	-	6	6
Trade	+	+	-	+	4	3
Public Administation	+	+	+	-	2	5
Services	+	+	+	+	1	1
Transportation and Utilities	+	+	-	-	5	7
Finance	+	+	+	+	3	2
Construction	-	+	-	-	7	4

SOURCE: Derived from Exhibit 1.

1. Indicates increase or decrease (1975 to 1985) in absolute employment levels.

2. Indicates increase or decrease (1975 to 1985) in shares of total employment.

Hence it is to other factors that we should look for differences in Maine/New Brunswick growth rates.

Two major factors appear to be important. First, Maine is a part of a national economy whose employment growth in the last decade has been more substantial than Canada's. Between 1975 and 1985, employment increased by about 27% in the American economy compared to 23% in Canada. This somewhat higher rate of national growth in the U.S. undoubtedly led to some of the growth rate differential between Maine and New Brunswick.

However, what appears to be more significant is the extent to which each of the sub-national economies was able to share in the national growth. Here the differences between Maine and New Brunswick are substantial. While New Brunswick's growth rate was substantially lower than that for Canada (15% vs. 23%), Maine's was slightly higher than the overall American rate (29% vs. 27%). Stated differently, New Brunswick's share of national employment fell while Maine's increased slightly.

A number of explanations may be advanced for the relatively stronger performance of the Maine economy. They include: a relatively better business development environment (e.g. role of banks and other financial institutions), a bigger impact from government policy (direct or informal) and a competitive locational advantage (e.g. proximity to high-technology growth in Massachussets). We will deal to some extent with each of these in subsequent sections.

3.0 UNEMPLOYMENT COMPENSATION SYSTEMS

In this section of the study, we contrast the features of the unemployment insurance programs applicable to Maine and New Brunswick. In recent years concern has been expressed in Canada about the impact of the unemployment insurance system on the functioning of the Canadian labour market. In particular, it has been argued that the U.I. program tends to encourage unemployed individuals to remain unemployed for a longer period of time than they otherwise would. This increases the duration of unemployment and thus adds to the unemployment rate. It also may induce more people, occupied in industries which experience regular seasonal or cyclical episodes of high unemployment, to remain in those industries than would otherwise be the case. This also increases unemployment rates.

Whether U.I. programs add significantly to the level and rate of unemployment can only be determined empirically. As will be discussed below, the evidence is not completely clear on this issue although it does indicate that some portion of unemployment can be attributed to the U.I. programs. Specifically, it is claimed that the increased "generosity" of the Canadian program, which resulted from changes in it in 1971, have increased unemployment rates by as much as 1 1/2 percentage points.

For this study, the issue is whether differences in the components of the U.I. programs that apply to Maine and to New Brunswick might be a factor in the differences in labour market performance. The features of the programs are contrasted to determine whether the Canadian system is more generous than that in Maine. If this is so, then it may explain some of the gap in employment growth and in unemployment rates. The features on which we focus are: scope of coverage, requirements for eligibility, amount of benefits paid, period over which benefits are paid and other relevant factors.

3.1 Scope of Coverage

In the U.S., individual states are responsible for funding and administering unemployment insurance. However, the bulk of the federal payroll tax (6.2% of wages) levied by the federal government against employers is rebated to the states which have U.I. programs. With that incentive, all states have U.I. programs. In Maine, the state government levies an additional tax on employers which varies from employer to employer depending upon the extent to which they have drawn on the fund in relation to their contributions. The more their employees draw on the fund, the higher is the rate of tax levied on the employer. The rates for all employers, irrespective of their experience rating (rate of use of the fund by employees), vary with the status of the fund. When reserves are low due to high unemployment rates, a higher tax rate is applied to all employers.

3.2 Eligibility

Employee eligibility for U.I. is based on earnings levels which also determine the amount of weekly benefits and the number of weeks over which benefits will be paid to those who are eligible. The details of how eligibility and benefit amounts are calculated are as follows:

a) Workers are insured if they have received wages equal to two times the average weekly wage in each of two quarters in the previous year and if their total wages during the previous year are at least six times the average weekly wage and total earnings over the last benefit period are eight times the new weekly benefit amount to which they are entitled.

b) The weekly benefit amount is equal to the total wages paid in that quarter (approximately 13 weeks) during the previous year in which wages were highest divided by 22. The maximum weekly benefit is 52% of the

average weekly wage rate for all workers. This year the upper limit is $152 (U.S.) per week.

c) To determine the number of weeks over which benefits may be paid, the Maximum Benefit Payable (MBP) is determined. This is equal to 1/3 of total wages paid to the insured individual over the past four quarters. The MBP is then divided by the weekly benefit amount and the result gives the number of weeks allowable. The maximum number of weeks is 26.

d) Extended benefits of the same weekly amount are payable to insured workers for an additional period equal to 1/2 of the number of weeks of regular eligibility (13 for anyone at the maximum of 26). These extended benefits are payable in cases of higher than normal unemployment.

e) Those who are employed in seasonal occupations are eligible for coverage only if they are unemployed during the season in which they would normally work.

g) Only individuals who are available for and actually seeking work are eligible for unemployment insurance. Claimants are asked each week to provide names of employers they have contacted and they are required to "physically visit employers".

3.3 Benefits and Payment Period

Direct comparison with the Canadian system of unemployment insurance is difficult with some items but in general it is clear that our program is the more generous one. Specifically:

a) To qualify for U.I. benefits in Canada, an individual must have worked 20 weeks in the previous year. This requirement may be as low as 10 weeks in areas of high unemployment. Since in the Maine system, eligibility is based on earnings

relative to the average wage, the two systems are not readily comparable in this regard. However, if we assume that an individual is earning the average weekly wage, the requirement to earn two times that amount in each of two quarters translates into two weeks employment in each of two quarters in the past year. The requirement to earn six times the weekly wage in the previous year implies a need to have worked at least six weeks in the previous year. For those earning less than the average wage, the number of weeks of required employment is greater than the above. The eligibility requirements in Maine appears to be less stringent than Canada's.

b) Once deemed eligible, an unemployed person in New Brunswick would receive a weekly benefit equal to 60% of his/her previous weekly wage. The maximum weekly benefit (in 1986) is $297 (Can.) per week. In Maine, the benefit amount is close to 60% of the individual's weekly wage while employed*. However, the maximum ($152 U.S.) is much less than in Canada.

100%

c) Not only is the maximum weekly benefit almost ~~50%~~ higher in Canada but the number of weeks over which it may be paid is nearly double that for Maine (50 weeks vs. 26). Even when extended benefits are payable in Maine, the number of weeks of eligibility is greater in Canada.

d) In Canada, unemployment insurance benefits are payable to individuals who would not be eligible in Maine. For example, seasonal workers like fishermen are eligible for U.I. in the "off-season". In Maine, fishermen are not generally eligible since they are treated as

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* The formula is total wages for 13 weeks ÷ 22. Assuming an employee earned a constant wage over the 13 weeks, the weekly benefit would be weekly wage X 13/22.

self-employed. Even if they were not excluded on those grounds, they could only receive benefits in the part of the year when they would normally be fishing. Virtually by definition, the self-employed cannot be in voluntarily unemployed during "their" season.

e) Similarly, payments of U.I. sickness and maternity benefits (up to 15 weeks of benefits for eligible claimants) in Canada have no parallel in the Maine program due to the strict application of the "available and ready to work" rule. However, it is worth noting that the special U.I. benefits in Canada (maternity, sickness and fishermen) constitute only 6% of total benefits paid under the U.I. program. Their impact on the overall generosity of the program is rather small.

3.4 Major Differences in U.I.

The major differences between the two programs which contribute to the greater generosity of the Canadian program are the larger (maximum) weekly benefit amount and the greater (maximum) number of weeks over which benefits are paid. The other program difference which is pertinent is that, in Maine, only employers contribute to the program and their contribution rate is a direct function of the extent to which their employees draw on the fund (i.e., are unemployed). This may serve as something of a disincentive to lay offs and hence might be a factor in keeping unemployment rates lower than in New Brunswick. However, even if the average benefits payable and weeks claimed are higher in New Brunswick than in Maine, this does not imply a large impact on unemployment rate differences. The work done in Canada on estimating the impact on unemployment rates of the liberalization of the U.I. program in 1971 puts the increase in the rate at a maximum of 1 1/2 percentage points. Other estimates are as low as 0.4 percentage points. As well, not all analysts are convinced that the 1971 changes had any measurable impact on unemployment rates. The work disincentive effect which raises

the rate is argued by some to be offset by the expansionary (and hence job creating) impact of the greater level of benefits.

The empirical results regarding the impact on unemployment rates of the changes in the U.I. system in Canada is of some relevance to this study. The order of magnitude of the impact on rates and the uncertainties about the offsetting macroeconomic impact of the benefits would suggest that the U.I. program differences have only a slight explanatory value for the unemployment rate comparison. However, one qualifying comment is worth noting. The empirical work in Canada has been done with reference to marginal changes to the Canadian system. The system already had benefits in place for seasonal workers in their off-season and benefits for self-employed fishermen. The impact of these components would be relevant to a Maine-New Brunswick comparison but are not picked up in the empirical work done on the 1971 changes. This could be important since the two areas, and especially New Brunswick, have substantial seasonal activity (forestry and agriculture as well as fishing). The eligibility of seasonal workers in the "off-season" in Canada may be encouraging less effort in job search during that period than would be the case in Maine where seasonal workers secure no benefits in the off-season. This would contribute to higher unemployment rate in Canada.

Even given these considerations it is reasonable to conclude that not even the most pessimistic estimate of the adverse impact of the U.I. program on unemployment rates comes close to the actual gap in the Maine - New Brunswick rate. It is simply inconceivable that a difference in 1985 of about 10 percentage points could be totally attributable to differences in the "features" of the respective U.I. programs. The bulk of the gap is the result of differences in levels (and changes in levels) of economic activity. As the sectoral growth analysis shows, the Maine economy has grown faster relative to the American average while New Brunswick's relative position in Canada declined.

4.0 ANALYSIS OF REGIONAL DIFFERENCES IN MAINE

In this section we briefly examine the pattern of employment growth and unemployment rate changes over the 1975-1985 period for the regions of Maine. Data are available by county and labour market area. However, for the latter, changes in geographical divisions have taken place twice in the last ten years which makes accurate comparability over time impossible. The study therefore uses the county data to examine changes in employment and in unemployment rates. These are provided in Exhibit 6 where the counties are listed in alphabetical order.

In Exhibit 7, the 16 counties are arranged by location in the state. The data show clearly that the highest growth rates in employment, the greatest reductions in unemployment rates and the lowest unemployment rates have occurred in southern Maine. Four of the five most southern counties (York, Cumberland, Sagadahoc, and Lincoln), are in the top five of employment growth rates. The same counties had four of the five lowest unemployment rates in 1985. Finally, only three counties reduced their unemployment rates by more than one-half and all three (York, Cumberland, and Lincoln) are in the southern region of the state. Conversely four of the five lowest employment growth rates were recorded in the northern most counties along with three of the five highest unemployment rates in 1985. One of the counties, Washington, experienced an actual decline in employment (and labour force) over the 1975-85 period.

Two inferences relevant to the study may be drawn from this data. First, they lend credence to the observation that the improved performance of the Maine economy has been significantly influenced by the high and medium tech growth in neighboring Massachussets. The spillover effect has been felt, not surprisingly, in the southern part of the state but apparently has not spread to the middle and northern regions.

Several of the individuals interviewed commented on the role of southern Maine's proximity to rapidly growing areas in the rest

EXHIBIT 6: LABOUR FORCE, EMPLOYMENT & UNEMPLOYMENT RATE BY COUNTY

County	1975			1985		
	L.F. ('000)	Employ. ('000)	U-Rate (%)	LF ('000)	Employ. ('000)	U-Rate (%)
Androscoggin	42.64	38.03	10.8	46.59	43.33	7.0
Aroostook	34.81	30.36	12.8	38.80	35.67	8.1
Cumberland	93.43	84.74	9.3	118.70	114.96	3.2
Franklin	10.52	9.37	10.0	11.73	11.69	8.9
Hancock	17.78	16.26	8.5	21.93	20.70	5.6
Kennebec	46.22	42.41	8.2	51.53	48.94	5.2
Knox	13.95	12.48	10.5	15.56	14.72	5.4
Lincoln	8.58	7.61	11.3	15.23	14.59	4.2
Oxford	18.84	16.67	11.5	21.46	19.97	6.9
Penobscot	57.34	52.27	8.8	62.63	59.02	5.8
Piscataquis	7.29	6.44	11.7	7.57	7.09	6.3
Sagadahoc	10.26	9.34	9.0	13.44	12.76	5.1
Somerset	18.13	15.46	14.7	21.90	20.14	8.0
Waldo	10.71	9.45	11.8	12.30	11.09	9.8
Washington	15.08	13.15	12.8	13.13	12.01	8.5
York	51.32	45.65	11.0	79.42	76.33	3.9

Source: Maine Department of Labour. Labour Market Information 1975-85

EXHIBIT 7: CHANGES IN EMPLOYMENT AND UNEMPLOYMENT RATES BY COUNTY 1975-1985

County*	Employ '85 / Employ '75	Ranking ** of Growth Rates	Unemploy '85 / Unemploy '75	Ranking *** of 1985 Unemploy Rate
York	1.67	2	0.35	2
Cumberland	1.36	4	0.34	1
Sagadahoc	1.37	3	0.56	4
Androscoggin	1.14	13	0.65	11
Lincoln	1.92	1	0.37	3
Knox	1.18	8	0.51	6
Oxford	1.20	7	0.60	10
Kennebec	1.15	11	0.63	5
Waldo	1.17	9	0.83	16
Hancock	1.27	6	0.66	7
Franklin	1.14	12	0.82	15
Somerset	1.30	5	0.54	12
Washington	0.91	16	0.66	14
Penobscot	1.13	14	0.66	8
Piscataquis	1.10	15	0.54	9
Aroostock	1.17	10	0.63	13
Maine	1.28		0.61	

* Arranged in south-to-north order
** Highest to lowest
*** Lowest to highest

Source: Calculated from Table 6.

of New England. Two components of this factor were mentioned. First, there has been a shift of firms and jobs into Maine in industries related to (although not part of) those medium and high tech sectors whose economic impact is growing in New England. For example, more conventional electronics assembly operations (medium to low tech) are establishing or expanding in Maine. Second, the ready access of Maine to growing markets in nearby New England states has encouraged the expansion of existing producers and suppliers and, in particular, has fostered rapid growth in the retail sector in the Portland area.

The second inference is that northern Maine is more like New Brunswick. The five southern Maine counties contain half of the total employment of the state. Their high growth rate significantly influences the measured growth for the entire state. The performance of the remaining 11 counties more closely approximates that of New Brunswick. From that perspective the performances of the two economies over the period examined are not as dissimiliar as the earlier comparisons would indicate.

This however, should not be pushed too far. There are, after all, sub-provincial differences in employment growth and unemployment rates in New Brunswick. A county breakdown would likely reveal patterns similar to those for Maine. As well, the overall industry mixes for Maine and New Brunswick were similar encugh to make the province/state contrast a reasonable one. Finally, even if the five southern counties are excluded, the unemployment rate picture in Maine in 1985 is still significantly better than that for New Brunswick. The highest county rate is less than two-thirds of the average for the province of New Brunswick. As regards employment growth, 11 of the 16 counties in Maine experienced a greater rate of increase in employment than did New Brunswick.

One likely impact of this north-south split in development is that population movements within the state would show a shift from the north and middle counties to the souther counties. Although population figures are available by county, it is

intra-state migration data which would be necessary to confirm this. (Population growth can vary by county because of birth-death rate differences and/or intra-county migration). The relevance to the study is that one of the explanations for the better unemployment rate performance of all the counties in Maine relative to New Brunswick could be the ready movement of residents in the northern part of the state to the growth areas in the southern region. This out-flow from higher unemployment areas would tend to reduce unemployment levels in those areas not benefitting from the industrial growth. Hence, even those counties which had a lower employment growth than New Brunswick and might be expected to have higher unemployment rates actually had lower rates.

5.0 FACTORS INFLUENCING DIFFERENCES IN PARTICIPATION RATES

The general trend for labour force participation by both males and females is the same in New Brunswick as in Maine (decrease in the rate for males; increase for females). However, the rates have been, over the period covered, lower for both groups in New Brunswick. There was some closing of the gaps as female participation increased at a faster rate and male participation decreased at a slower rate in New Brunswick than in Maine. The figures are shown in Exhibit 8.

A great deal of work has been done to determine what causes changes in participation rates for the population in general and for specific age and sex categories. An examination of this work may help shed some light on the gaps in the New Brunswick-Maine rates.

Three major factors are suggested to affect overall participation rates -- wages or earnings rates, unemployment rates and changes in the rates for specific groups, like prime age males, youth, females, etc. We deal with each of them in turn.

5.1 Wages

The impact of changing wage and salary levels on participation rates is somewhat ambiguous. On the one hand, higher earnings will tend to attract people into the labour force to seek work or take up employment who would not otherwise have done so. For example, this is argued to be one factor in the rise of female participation rates particularly among married women. Also the choice about whether or not to continue in school by people under 25 may be influenced by current wage rates. Some new entry may be encouraged by higher wage levels and to the extent that this happens, the participation rate increases.

On the other hand, it is possible that higher wage and salary levels will discourage entry and/or reduce work effort. With

EXHIBIT 8: LABOR FORCE PARTICIPATION RATES IN MAINE AND NEW BRUNSWICK 1976-1985

	MAINE			NEW BRUNSWICK		
	Male	Female	Total	Male	Female	Total
1976	78.2	47.8	62.1	69.7	38.0	53.4
1977	74.9	47.3	60.0	69.3	38.5	53.5
1978	74.3	47.7	59.9	69.5	40.6	54.8
1979	73.6	49.6	61.0	69.8	40.8	54.9
1980	73.9	50.3	61.5	69.1	42.6	55.7
1981	72.8	50.0	61.0	69.3	43.7	56.2
1982	73.1	50.4	61.4	67.6	42.9	54.8
1983	73.4	53.3	63.0	67.3	44.1	55.4
1984	73.9	54.9	63.7	66.0	44.2	55.0
1985	74.1	53.3	63.1	67.7	46.3	56.7

SOURCE: U.S. Bureau of Labour Statistics Geographic Profile of Employment and Unemployment; Statistics Canada, The Labour Force, cat. no. 71-001.

rising incomes, it is possible to afford more leisure time activities. This could induce those already in the labour force to engage less actively in market activities (reduce work-hours, reduce multiple job-holding etc.) and reinforce the involvement in non-market activities of those still not in the labour force. This is particularly likely if the decision about labour force participation are largely family rather than individual decisions where the earnings that are relevant to the decisions are those of all the adult members of the family unit. Thus, for example, an increase in average wage and salary levels could, by raising the income in the family unit, make it easier for one or more members to engage in such activities as schooling, volunteer community work, part-time rather than full-time employment, etc.

5.2 Unemployment Rates

The second factor which can affect overall participation rates is the range of employment opportunities. The indicator typically used to measure employment opportunities is the unemployment rate - the higher the unemployment rate, the fewer the opportunities to earn income. The influence of unemployment rates on participation is, like that of earnings, conceptually unclear. It is possible that increased unemployment rates will so discourage some of those who are unemployed that they will drop out of the labour force and stop looking for work altogether. However, in cases where the participation decision is a family matter, higher unemployment may force family members who are not in the labour force to enter in order to support family incomes. The impact on the participation rate will depend upon whether the "discouraged worker" or the "added worker" effect is the dominant one.

5.3 Demographics

Finally, the participation rate can be influenced statistically by changes in the demographic make-up of the population. If, for example, a region or a country had a group whose population share was increasing but whose participation rate was decreasing, it

could end up with an overall participation rate which was growing more slowly than that of another areas whose demographic structure was different. The participation rates of the various age and sex divisions might be changing at the same rate in both areas but changes in the population mix might be dissimiliar enough to generate differences in the pattern of overall participation rates.

5.4 Effects

The issues about what factors influence participation rates and in what direction have been examined empirically. The available work does indicate that higher real earnings have induced greater participation among women, especially married women. However, other factors such as increases in the quality and quantity of labour-saving appliances in the home, expansion of the service sector, increases in the percentage of work done on a part-time basis have had an impact as well. The impact on youth (under 25) participation rates is not as clear since higher earnings both induce their greater involvement in the labour force and provide families with more income to spend on higher education (and make them less dependent on young adult earnings).

For this study the relevant question is whether the difference in earnings levels between Maine and New Brunswick could be contributing to the differences in participation rates. Given the constraints under which this phase of the study is being conducted, it was decided that resolving that problem was not possible.

What we can say is that if increased earnings tend to cause greater labour force participation rates, then the Maine-New Brunswick gap is not due to differences in earnings levels. Between 1975 and 1984, average real per capita income in New Brunswick declined slightly while that of Maine increased by 20 per cent. Over the same period, the labour force participation rates in both places increased and New Brunswick's did so at a faster rate than Maine's. If there were a predictable

relationship between earnings and participation rates it would have to be an inverse one to be consistent with the declining gap in the Maine-New Brunswick participation rates.

The studies that have been done about the influence of unemployment on participation rates are clearer in their results. The discouraged worker effect has generally shown up as the dominant influence on participation rates. That is, higher unemployment rates lead to decreased participation rates. A recent study of the Economic Council of Canada concluded that official unemployment rates tend to seriously understate total unemployment because of a significant discouraged worker component in the population.

If that is the case, it provides no explanation for the differences in participation rates between Maine and New Brunswick. While the gap in participation rates has declined in the last 10 years, the gaps in unemployment rates have increased significantly. This is particularly the case since the recession of the early 1980's. New Brunswick's unemployment rate was just over 30 percent higher than Maine's in 1976 (11.0% vs. 8.9%) but was 60% higher by 1981 and was almost three times the Maine rate by 1985 (15.2% vs. 5.4%). Taken by itself, this change in relative unemployment experience should have lead to an increase in the participation rate gap because of the discouraged worker effect. In fact the gap got slightly smaller.

The influence of demographic differences is not significant since the age-sex breakdown of the population in Maine and New Brunwick is similar and has been over the period examined.

It would appear that the main economic factors which have a bearing on participation rates provide little if any of the explanation for the gaps in participation between Maine and New Brunswick. A more comprehensive study would have to be conducted on this specific issue to confirm or change that conclusion. In its absence, it would appear reasonable to conclude that some combination of social, cultural, and economic factors has led to

differences in the degree of attachment to the labour force in the two areas. In the latter category, it is possible that influences such as seasonality of employment, access to post-secondary education and availability of part-time employment could be important.

6.0 ROLE OF GOVERNMENT

The general perception in Canada of the role of the public sector in regional/industrial development in the U.S. is that it is quite limited when compared the Canadian situation. In this section we examine various facets of government involvement in the Maine economy to determine whether that perception is correct and, if not, whether the public sector has been a factor in the growth of the Maine economy over the last 10 years. The types of government activity examined were formal government programs; promotional activity by government; public sector employment; public sector purchasing; indirect government programs and public infastructure expenditures.

6.1 Formal Programs

In this category, we include those expenditures/loan/tax activities whose primary or sole purpose is to encourage industrial development in Maine or in specific regions of Maine. These programs are grouped by level of government and include:

(i) Federal activity includes the Urban Development Action Grant (UDAG) made to municipalities which in turn use the grants to make loans to businesses whose use of the funds creates jobs and the Small Business Administration's 503 Program which helps small businesses finance fixed assets at reasonable rates.

(ii) State activity revolves around loans and loan guarantees, bond financing, assistance in packaging financial arrangements, technical and other advice to businesses and training programs. The Finance Authority of Maine (FAME) (established in 1983) provides loan guarantees and approves municipal bond issues (Industrial Revenue Bonds) as well as issuing IRB's for the state. The IRB's provide financing at rates below market levels for companies which are trying to expand or modernize. In addition, FAME makes loans available

to low-income people starting their own small businesses (Maine Job Start Program).

Other state programs include Maine Growth Program (financial packaging), Development Fund (grants to communities to finance development projects) and an investment tax credit scheme.

iii) Local government activity includes: revolving loan funds administered by communities and used to provide some of the financing for development projects; city/county financed industrial parks; and bond financing for improvements in public services to encourage industrial/commercial redevelopment.

The federal Department of Housing and Urban Development (HUD) provides grants to localities experiencing depressed economic conditions - slow growth, high unemployment and a disproportionate share of low income families and individuals. The grants made to communities are in turn loaned by the local government to private sector firms whose projects are eligible. Eligibility criteria include number of jobs created, impact on the community and requirement for U.D.A.G. funds to complete a project. In 1985, U.D.A.G. grants to the state of Maine totalled $10 million.

The Economic Development Administration which in the 1970's provided the seed grants to help found many of the local and regional development councils in Maine is now largely confined to providing funds, (Technical Assistance grants) for feasibilty studies, demonstration projects, university centres and the like. The Small Business Administration assists in the financing of small business start-ups and expansion through two loan programs each of which has a job creation criterion for eligibility.

The state level of government is more actively engaged in the industrial development process than is the national government.

The most substantial involvement is in providing loans and loan guarantees although there are a number of additional components to their efforts at encouraging industrial development.

FAME maintains by far the widest variety of programs. FAME was created by the state legislature to bring all the financing programs under one roof. The purpose of FAME is to help finance expansion of industrial, manufacturing, recreational, fishing, agricultural, and other natural resources based enterprises and to increase the access of small business and veterans to financing at reasonable rates and terms. Since its creation in 1983, FAME estimates that it has provided more than $550 million in financing, helped create or retain 25,000 jobs and financed projects which have generated $8 million in new property taxes.

The Business Development Division of FAME contains several basic programs which utilize one or a combination of the following financing mechanisms: Guaranteed Loans (Mortgage Insurance Program and the Small Business and Veterans Small Business Guarantee Programs); Industrial Development Bond Program (Revenue Obligation Securities Program and Municipal Securities Approval Program); and Targeted Lending Grants (Maine Job Start Program and Pine Tree Partnership Fund). The Natural Resource Divison of FAME provides financing to agriculture, fishing, forestry, and other natural resource based enterprises at affordable rates through the use of the Industrial Development Bond Program and Guaranteed Loans. In addition FAME is now developing a program for natural resource enterprises, including financial and technical assistance to entrants.

The State Development Office provides, through the Maine Growth Program, assistance to small businesses in putting together financing for new operations or expansion/modernization of existing ones. The State Planning Office makes grants to communities which are not eligible for HUD development grants (UDAG). The communities lend the money to private firms for development projects that meet certain job creation criteria. The state government also offers an investment tax credit to

taxpayers who make an investment in Maine of at least $5 million and who generate new income of at least $1.2 million in a given tax year. The details of these programs and those co-ordinated by FAME are described in more detail in Appendix 3.

At the local level, some regional development organizations and individual cities either control or have access to revolving loan funds which make financing available to expanding businesses in the same manner as do banks. Each organization has its own policies regarding qualifications for loans, although preference is usually given to projects which create jobs within the pertinent region. The access to credit which they offer often provides the gap financing necessary to complete a project. These revolving loan funds can originate from several sources. Some of the regional development organizations were originally set up by the federal Economic Development Administration (EDA) grants. A few of the development organizations have used part of this money to establish a revolving loan fund. Regional development organizations can also receive funds from other federal and state agencies, as well as from the countries and the towns which they serve. Revolving loan funds maintained by cities for development loans may originate from municipal taxes and private business matched funds.

Not all the development organizations and municipal governments are involved in providing financing for businesses. Of the 10 regional planning commissions in the state, only three have loan funds. Several development agencies such as the Lewiston/Auburn Growth Council have revolving loan programs as do some communities. There is considerable variation in the degree of involvement of local area agencies and governments in development efforts. Some are restricted mainly to providing information to new or existing businesses on financing availability, local tax rates, access to industrial parks and the like. Other agencies make loans to firms, help them package financing arrangements, provide management assistance and business counselling services and/or are involved in a wide variety of planning activities. This is in addition to serving as intermediaries for state and

federal loan/grant programs and for industrial revenue bond issues.

While there are some similarities between Maine and New Brunswick in the use of interest reduced loans and loan guarantees by the state and/or federal governments, it is clear that the scope and extent of regionally-oriented business development assistance is much greater in Canada than in the U.S. Instruments such as direct grants or subsidies and firm or region specific infrastructure expenditures are either not used at all or are relatively insignificant in the U.S. (As we discuss below municipalities are responsible for industrial park construction). Hence, although the U.S. government makes transfers to state and local governments to enable them to fund health, education, police and fire protection systems, development assistance is very limited. At the state level in Maine, the actual financial cost of business development is fairly low. For example FAME which coordinates economic development activity had program expenditures in 1986 of $2 million, the bulk of which was related to loan guarantee activities.

Since the state component of the financing of business expansion or modernization is in the form of guarantees or approval of bonds which are sold to the private sector, it is more difficult to assess impact than is the case in Canada where the direct financial benefits of grants and tax exemptions are measurable to some degree. At that, we have had very few attempts to actually measure the impact on, for example, job creation of DREE/DRIE grants. Therefore, it is not surprising that there are no available studies of the impact of state or local government programs on employment or growth in Maine.

Despite the absence of quantitative and qualitative evaluations of the public sector involvement in industrial development in Maine, several conclusions about the formal role of government in Maine vis-a-vis New Brunswick can be drawn. The direct involvement of the three levels of government in industrial development is less in Maine than it is across the border. The

amount of money spent in absolute and per capita terms is lower, the range of programs is smaller and direct financial involvement is almost non-existent. However, the state and local governments are more involved in the development process than is often supposed in Canada where much of the obvious development effort is financed by the federal government either by itself or in cooperation with provincial governments. As well, compared to their counterparts in New Brunswick, the state and local governments in Maine have a greater responsibility for development programs. In fact, they have virtually all the responsibility for such programs.

The programs that are used are more arms-length ones in which the firms establishing or expanding in Maine are ultimately responsible for all of the financing - they must repay the loans regardless of source. This is consistent with the view frequently expressed in the interviews that the primary role of the government departments and agencies is to help create an environment which is attractive to the business sector and which encourages them to locate or expand in the state without "bribing" them (at least overtly) to do so.

With direct reference to the issue of the impact on development, one of the points made in several interviews, particularly by those not directly involved in the state or local government, is that the development efforts of those governments may simply be offsetting similar efforts in other states. Therefore, development programs in Maine may not be encouraging economic growth as much as maintaining Maine's relative position. This argument is similar to that used in Canada to support a strong federal presence in regional development. The provinces, if left to deal with development policy, would be forced into costly and wasteful competition in providing subsidies to attract or retain firms. This implies that the public sector role in industrial development in Maine is fairly limited or at least that formal assistance programs have not greatly influenced growth in Maine.

6.2 Government Promotion

At the state level, the State Development Office (SDO) implements a Business Attraction program. The objective of the Business Attraction program is to encourage and assist industries from outside the state of Maine to establish operations within the state. The SDO engages in activities such as advertising, direct mailings, tele-marketing, trade missions and personal visits. The Business Attraction program mainly concentrates its efforts in the northeastern United States. The SDO works with interested businesses in providing technical assistance such as information on labour, wages, taxes, transportation, utilities, and environmental regulations; site/location assistance through the maintenance of a comprehensive file of available industrial buildings and sites; financial assistance regarding federal, state and local financing options; training assistance regarding federal and state training and vocational education programs; and marketing assistance by identifiying specific foreign and domestic trade opportunities or commercially viable producers of Maine products.

There is also some promotional activity at the regional level by the regional development organizations and there is even some marketing done at the local level. The marketing efforts of the regional and local development agencies are also mainly concentrated in the northeastern U.S. and are accomplished in a number of ways. For example, the Lewiston - Auburn Economic Growth Council has a team of 50 individuals located in the northeastern U.S. who promote the Lewiston-Auburn area. The city of Bangor has an extensive marketing program at the local level and spends thousands of dollars on direct mailing alone. In addition, Bangor has two marketing employees (one full-time and one part-time), and participates in numerous trade shows both nationally and internationally.

Promotional activities were viewed as important by many of those interviewed although financial programs were seen as having more

impact on development. Those who felt that the financial programs mainly offset efforts in other states had similar views regarding promotion.

6.3 Government Employment

The figures on employment in public administration appear to indicate that the government sector is much more significant a factor in Maine's economy than in that of New Brunswick. This might imply that government employment has had an influence on the growth of the Maine economy and may help explain its superior performance relative to New Brunswick. However, two considerations appear to rule that out as a factor. First, the published administration figures for Maine and New Brunswick are not directly comparable. In Maine, employment in the education and health service sectors are included in government employment while in New Brunswick they are included in the services category. In 1984, there were approximately 33,000 employees in education and health services in Maine. If they are switched from public administration to services, government employment as a percentage of total (non-agricultural employment) drops from 18.9% to 11.4%. This is much closer to the New Brunswick figure of 8.7%. As well, over the period when the Maine economy has been growing faster than that of New Brunswick the public sector share (inclusive of health and education) of total employment in Maine has been declining while it has been increasing in New Brunswick although the adjustment in both cases has been fairly slight. For the period under examination, neither the amount nor changes in the amount of public sector employment appears to have been a factor in Maine's economic performance.

6.4 Government Purchasing

At the state level, there are no preferential purchasing arrangements. Although at one time there was preference given to in-state contractors, the practice was repealed because it was causing discrimination against Maine contractors bidding in other states. At the local level, there is an informal degree of

preference for local contractors, although its impact is unlikely to be substantial. The Department of Defence has a Procurement Assistance Centre which helps firms to do business with the military sector. However, as such assistance is provided in other states, no special preference is given to firms in Maine.

6.5 Indirect Programs

This rather vague category refers to government sector activities which, although not formally established to provide industrial development assistance to a specific area are conducted in such a manner as to do that informally. The reference is not, however, to programs or policies whose impact is unintentionally and incidentally spatial in its orientation but rather ones whose intentional functioning, if not stated purpose, has a spatial element.

The main area considered in this study is the defense sector. It has been claimed that defense spending on military installations and on defense contracts has a definite geographic component to it as the allocation of funds is determined by competition among members of Congress who, in representing their respective states, compete for spending to be carried out there. To the extent that less developed or poorer states and regions are able to draw a disproportionate share of such spending, this policy area may be argued to have a regional or spatial component.

The defense sector is a significant economic force in Maine. With three large military installations - Naval Air Station in Brunswick, Loring Air Force Base and the Naval Shipyard in Kittery - and several sizeable defense contractors such as the Bath Iron Works and the Pratt and Whitney Aircraft Divison of United Technologies, the military contributes substantially to employment and output in Maine. A study by Carl Veazie at the Center for Research and Advanced Studies indicates that total defense related employment in Maine (military and defense contractors) was 40,000 in 1982 and generated a total payroll of about $400 million.

However, although the level of impact from the defense sector is substantial, it is not clear that, as a component of overall government policy, defense spending has been directed to Maine to provide the state with a boost to industrial development. It was suggested by those interviewed that the military bases were located in Maine originally for strategic reasons. However, the attempt by the Air Force to close Loring Air Force Base was successfully resisted partly on the grounds that it would have a very adverse effect on the local economy. In that instance, there was a spatial component to the decision to retain the base. More generally, it was argued that state lobbying has had relatively little influence in attracting defense expenditures but more influence in retaining expenditures especially in the form of military bases.

What limited data are available also tend to support the view that military spending, while important to the Maine economy has not, at least in recent years, made a significant contribution to the faster rate of growth in employment in Maine whether intended by policy makers or not. For example employment in defense-oriented industries (including chemicals, rubber and plastics, metal fabricators, electrical, aircraft, shipbuilding, etc.) in the early 1980's rose more rapidly in the U.S. as a whole than in Maine (between 1980 and 1983, 14% in Maine and 29% in the U.S.) and sales of these sectors grew at about the same rate (69% in Maine, 74% in the U.S.) The improvement in Maine's performance relative to the rest of the country does not appear to have depended on a faster growth in the military sector.

6.6 Infrastructure Expenditures

When federal money was more readily available for development in the 1970's, it was common to build infrastructure. More recently, infrastructure expenditures for economic development are used mainly for the establishment of industrial parks. These infrastructure expenditures are necessary to expand utilities and extend roads to development areas. The responsibility for them

is in the hands of local governments. The regional economic development organizations may help coordinate and plan the building of infrastructure to coincide with planned development activities. The people interviewed felt infrastructure expenditures could be an important supplement in the development process to the financial programs and to marketing and promotion. However, the most successful industrial parks tend to be those located close to rapidly growing areas like Portland and are therefore a result rather than a cause of industrial development. Some individuals felt that there is an over-supply of industrial parks in Maine. There are currently 57 industrial parks in the state.

There is no formal attempt to coordinate infrastructure expenditures of a more general nature (e.g. highways, airports, public services) to provide an industrial development impact. It was, however, suggested that the completion of the Interstate highway to the New Brunswick border was done with spatial development considerations in mind. If so, its impact appears to have extended as far north as Bangor but not beyond.

6.7 Summary

The above discusssion suggests that while the general perception of a very limited role for government in regional development in the U.S. might require modification, it would not be substantial. There is no hidden "underwater iceberg of public sector activity in Maine which is having a significant and unseen impact on growth in that state. The state and local governments are relatively more active than their New Brunswick counterparts but that is mainly because of the substantially different federal government roles in the two countries. When total formal policy regardless of source is compared, the public sector involvement in Canada is greater and more direct.

The several levels of government involved in industrial development in Maine see themselves as mainly helping to provide an environment conducive to the development process rather than

directly interfering to create or foster that process. Their main activity is provide guarantees for private sector financing or to supplement such financing with their own loans but not to replace it. As well, direct grants or subsidies are non-existent (although inter-government transfers to provide loan funds to lower levels of government are used).

Other than industrial parks, which are financed by local government bonds (and of which there may be an oversupply) the use of infrastructure expenditures for overt development purposes is virtually unknown in Maine. This is a direct contrast to the Canadian case where a variety of infrastructure expenditures have been used with regional growth objectives in mind. Government procurement policies have been eliminated at the state level and government employment has declined in proportional terms. The defense sector, is a significant contributor to the Maine economy but does not appear to have increased its relative contribution in the period examined.

Apart from more aggressive promotional component to policy, which has a arguable influence on development, there are no obvious lessons about new or different programs or policy approaches which New Brunswick can learn from Maine. There are no hidden policies which can account for the dramatic improvement Maine's relative position unless less government involvement per se, causes a faster pace of growth.

7.0 ROLE OF BANKING

Interest in this topic is based on the perception that differences in the banking systems in Maine and New Brunswick may have contributed to the superior performance of Maine's economy. The fact that Maine (as is the case for the rest of the U.S.) has a banking structure composed of a large number of small banks is seen by some in Canada as the basis for a more extensive impact of local banks on local or regional development. Stated differently, borrowers are able to more easily get bank financing in a system of a large number of small state banks compared to a system of a small number of large national banks. This is due to the fact that locally based banks keep the capital in the local area while larger banks drain it out of the local area into the larger capital markets. This works to the disadvantage of businesses in less developed areas.

In fact, the trend in banking in the New England area and in Maine in particular suggest that the small local banks may not be as positive an influence on business growth as the above view supposes. There has been a general move to interstate banking with larger out-of-state banks merging with smaller in-state banks. Maine was one of the first states to enact legislation permitting such bank mergers. In the testimony and evidence provided during the period leading up to the legislation, one of the benefits of the merger process expected to occur was the improved prospect for industrial development. The basis for this view was that the larger regional and national banks would, after coming into the state through merger, provide a larger pool of financial capital upon which medium and large size businesses could draw.

A study by Connie Dunham of the Federal Reserve Bank of Boston tends to support this view. She found that while smaller banks are more locally oriented in both the source and use of funds than intermediate and large banks, they also tend to gather more funds locally than they lend locally. Consequently, "small banks tend to be conduits through which local funds flow into nonlocal

investments...". By contrast, affiliation of smaller banks "with larger banking organizations may decrease the outflow of funds from a local community because of the affiliate's new ability to offer an expanded array of services to local... medium-size and large businesses." This pattern is more likely in urban areas where the larger businesses tend to cluster and less likely in rural areas.

The implication of the analysis for this study is that the traditional small local bank structure is likely not to have been the basis for a superior economic growth performance in Maine in recent years. If anything, the move to interstate banking and hence to larger nonlocal banks may be a factor in the improved position of Maine vis-a-vis the U.S. average. However, the boom in New England and in Maine began before the bank merger process started. Of the three states with the highest growth rates in New England - New Hampshire, Massachusetts and Rhode Island - two (Massachusetts and Rhode Island) have only recently passed legislation allowing interstate mergers and New Hampshire still does not permit them. This suggests that the changes in the banking structure in Maine have had little to do with its high rate of growth relative to the rest of the country.

For the Maine - New Brunswick comparison, the implications are fairly clear since what is happening in Maine is that the banking structure is moving to some extent in the direction of that which already exists in Canada - larger inter-state (inter-provincial) banks. Although the number of banks in Maine has not declined (unlike other New England states) control has shifted partially out of the local area and out of the state. This makes the banks in Maine more like those which operate in New Brunswick. If the view expressed at the beginning of this section were correct, that shift should have an inhibiting effect on industrial development. That it does not appear to have done so suggests that differences in the banking structure have little to do with the differences in the performances of the Maine and New Brunswick economies.

One other change in the banking system that is nationwide is worth noting. In 1979, the Community Re-Investment Act (C.R.A.) was passed. The Act is designed to encourage banks to be more active in financing developments in the local communities where they are located and to be more sensitive to the needs of the local community. The wording of the Act is rather vague and tends to be negative (prohibiting discrimination against the local community) rather than positive in its prescription. It is not clear what affect it has had on the banking system throughout the U.S. or in Maine specifically. Individuals from the Federal Reserve Bank of Boston who were interviewed provided anecdotal examples from Massachusetts and Illinois of banks taking leadership roles in the development efforts of their communities. No specific cases for Maine were cited although it was suggested that to the extent that banks were adopting such roles in Massachusetts or Illinois they were probably doing so in Maine as well.

It may be that while the structure of the banking system has had little impact on development, legislative changes in the U.S. (CRA) and/or a typically more aggressive financial community have contributed to the improved performance of the New England region's economy and specifically that of Maine. In this regard, there has been a significant growth in recent years in the commercial lending activities of what are known as thrift institutions (savings banks, savings and loan associations and cooperative banks). This has occurred throughout the U.S. but has been more important in the New England area where thrift have a larger share of the total assets of depository institutions than is the case for thrifts in the rest of the country. The increased competition for commercial banks may have had an influence on their willingness to make loans. Whether this increased lending activity of thrifts is a partial cause or a consequence of the economic growth in New England is somewhat unclear.

APPENDIX 1

INDIVIDUALS INTERVIEWED FOR STUDY

APPENDIX 1

INDIVIDUALS INTERVIEWED FOR STUDY

1. Mike Adams, Division of Economic Analysis and Research, Maine Department of Labor.

2. Stephen A. Bolduc, Director - Business Attraction State Development Office.

3. Lynne Browne, Vice-President - Regional and Banking Structure Section, Federal Reserve Bank of Boston.

4. Donald H. Burns, Executive Director - Somerset County Industrial Development Committee.

5. Roger Carpenter, Division of Economic Analysis and Research, Maine Department of Labor.

6. Constance Dunham, Assistant Vice-President - Regional and Banking Structure Section, Federal Reserve Bank of Boston.

7. Jim Gove, Business Assistance Division, State Development Office.

8. Lloyd Irland, Irland Group - Forestry Consultants (formerly Chief Economist at State Planning Office).

9. Richard L. Kelso, President - Mid-state Economic Development Corporation.

10. Charles A. Mercer, Director - Marketing and Communications Finance Authority of Maine.

11. Michael Moniz, Executive Director - Lewiston-Auburn Economic Growth Council.

12. Fred Morley, Atlantic Provinces Economic Council.

13. Edward G. McKeon, Director - Economic Development Department, City of Bangor.

14. Public Relations Director, Eastern Maine Development Corporation.

15. Charles G. Roundy, Executive Director - Katahdin Regional Development Corporation.

16. Donna K. Thornton, Director of Development and Planning, City of Bangor.

17. Janice Tisdale, Small Business Development Center, University of Southern Maine.

18. Carl Veazie, Senior Economist - Center for Research Advanced Studies, University of Southern Maine.

APPENDIX 2

BIBLIOGRAPHY

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1. Atlantic Provinces Economic Council - New England and the Atlantic Provinces: A Comparative Study for the Department of Regional Industrial Expansion, September 1985.

2. Dunham, Constance - "Recent Developments in Thrift Commercial Lending: New England Economic Review, Nov./Dec. 1985, pp. 41-48.

3. Dunham, Constance - "Interstate Banking and the Outflow of Local Funds", New England Economic Review, March/April 1986, pp. 7-19.

4. Dunham, Constance - "Regional Banking Competition" New England Economic Review, July/August 1986, pp. 3-19.

5. Howell, James - "The Economic Renaissance of New England", Economic Impact, no. 51, 1985, pp. 16-23.

6. Hum, Derek - Unemployment Insurance and Work Effort: Issues, Evidence and Policy Directives, Ontario Economic Council, 1981.

7. Rima, Ingrid - Labour Markets, Wages and Employment, W.W. Norton and Company, 1981.

8. Veazie, Carl - "Is Maine's Business Climate 40th in the Nation", Maine Business Indicators, vol. XXVII, no. 2, March 1982.

9. Veazie, Carl - "Defense Business Booms", Maine Business Indicators, vol. XXVII, no. 5, September 1983.

APPENDIX 3

FORMAL STATE GOVERNMENT DEVELOPMENT PROGRAMS

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FORMAL STATE GOVERNMENT DEVELOPMENT PROGRAMS

The following is a brief summary of the main features of the programs employed by the State of Maine to encourage industrial and commercial development.

A. Finance Authority of Maine

1) Loan Guarantees:

a) Mortgage Insurance Program-- guarantees loans for construction, modernization or expansion of plants, factories and equipment. Loans up to $7 million can be guaranteed to a maximum of 90% of the loan.

b) Small Business Loan Guarantee - loans of up to $100,000 guaranteed up to 85% for individual residents of Maine.

c) Veteran's Loans - loans of $200,000 or less guaranteed to a maximum of 85%.

d) Natural Resource Entrants Program - loans of up to $250,000, guaranteed to a maximum of 90%; for natural resource sector enterprises.

2) Industrial Development Bond Programs:

a) Municipal Reserve Obligation Securities - municipalities, with FAME approval, issue tax exempt industrial reserve bonds (IRB). Lending rates are 65 - 75% of market rates. The private industrial users of the proceeds are liable for the payments to the bond

purchasers. The funds may be used for land, land improvements, labour, materials, equipment, machinery, engineering and design, etc.

b) Revenue Obligation Securities Program - State issued (FAME approval) IRB's; features similar to those for municipal bonds but includes provision of partial guarantee of the bond payments to purchaser.

c) Umbrella Bond Program - loans of up to $1 million to individuals and small businesses establishing or expanding in the manufacturing, agriculture, fishing or recreation sectors.

3) Targeted Lending Grants:

a) Maine Job Start Program - loans to low income individuals starting their own businesses; lower than market rates of interest on loans up to $10,000. This pilot program is operated in 5 counties and recipients must have a gross household income less than 80% of the state average.

b) Pine Tree Partnership Fund - research grants to a maximum of $5,000 to small businesses considering a process or product technological change.

B. **Maine Growth Program**

The Maine State Development Office provides financial packaging assistance to small businesses who are seeking capital to build new plants, expand existing factories or purchase new equipment [In 1985, 29 banks

in Maine committed to make available $300 million for long term expension loans.]

C. Development Fund

The State Planning Office makes grants to communities that are ineligible for the HUD grants. Communites use the funds in the same way as the entitlement communities utilize the Commerce Development Block Grant funds. Firms borrowing the money for development projects must demonstrate need and must insure that over half the new jobs and housing go to low/moderate income individuals.

D. Jobs and Investment Tax Credits

Taxpayers who invest at least $5 million in Maine during a single tax year are eligible for a state investment tax credit equal to the federal investment tax credit (to a maximum of $300,000). The investment expenditure must result in an increase in wages during that year of at least $1.2 million.